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Beginning in 2003, the WDNR, with support from the U. S. EPA's Regional Environmental Monitoring and Assessment Program, conducted an assessment of the physical, chemical, and biological conditions of Wadeable Streams in the Driftless Area ecoregion, in western Wisconsin, using a probabilistic sampling design. In 2005, the National Wadeable Stream Assessment program provided a statewide assessment of the condition of stream resources. Comparisons of data collected at randomly-selected stream sites with reference condition data indicates that a significant proportion of the random stream sites (and by inference the state's entire wadeable stream population) exhibit a substantial degree of either physical, chemical, or biological degradation. The State of Wisconsin has subsequently incorporated probabilistic sampling designs into WDNR's water resources management programs to improve the characterization of the state's aquatic resources by using data of known statistical quality.

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